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Cryptococcosis is a disease common to most animals and is produced by a yeast-like fungus, **Cryptococcus neoformans.** The organism is round to ovoid in shape, reproduces by budding and has a characteristic mucinous capsule.

It is of epidemiologic significance because the cryptococcic organism is a common soil saprophyte. Numerous clinical cases have been traced to pigeon droppings as the most probable source of infection (2, 3, 4, 7, 8, 9).

Several cases of feline cryptococcosis, manifested by a meningitis (3, 4, 6, 7), rhinitis, (8), pneumonia, (7, 8, 9), and dermatitis (7, 8), have been reported in this country.

Case History:

In June, 1963, a four-year-old male Siamese cat developed an ulcerated skin lesion on its right front foot. This lesion extended to other parts of the body during the next three months. On September 1, 1963, the cat was referred to the Stange Memorial Clinic. A biopsy was taken from the lesion on the right front foot and a sample was also submitted for culture. The biopsy indicated the skin lesion contained *Cryptococcus neoformans.* The significance of this finding was explained to the client and with her permission, the cat was euthanized.

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Mycology:

A specimen for etiologic identification was taken from the lesions around the ear, inoculated onto Sabouraud's agar and incubated at room temperature.

Definite colonies were first observed after eight days incubation. The colonies were white, mucoid, and glistening. A cream to light tan coloration of the colonies developed after about 15 days incubation at room temperature. No aerial mycelia were formed.

Glucose, mannose, and sucrose were fermented with formation of acid, but no gas, after five days incubation at room temperature. Lactose was not fermented.

Microscopic examination of a Gram's iodine stained preparation evidenced thick walled spherical budding cells. India ink stained preparations made evident a large gelatinous capsule.

Gross Lesions:

Cutaneous lesions, widely distributed over the body, were proliferative ulcers from .5 mm. to 3 cm. in diameter (Fig. 1). The right front foot was enlarged by a soft swelling between the foot pads (Fig. 2). Confluent lesions on the tail involved the entire ventral surface. A proliferative lesion lateral to the left external naris extended into the left nasal cavity, which on cross section was observed to be partially occluded by the soft enlargement. No gross lesions were observed in any internal organ.

Microscopic Lesions:

Microscopically, proliferative lesions

Figure 1. Focal ulcerative facial lesions of a cat caused by *Cryptococcus neoformans.*

Figure 2. Proliferative foot lesion from which *Cryptococcus neoformans* was demonstrated.

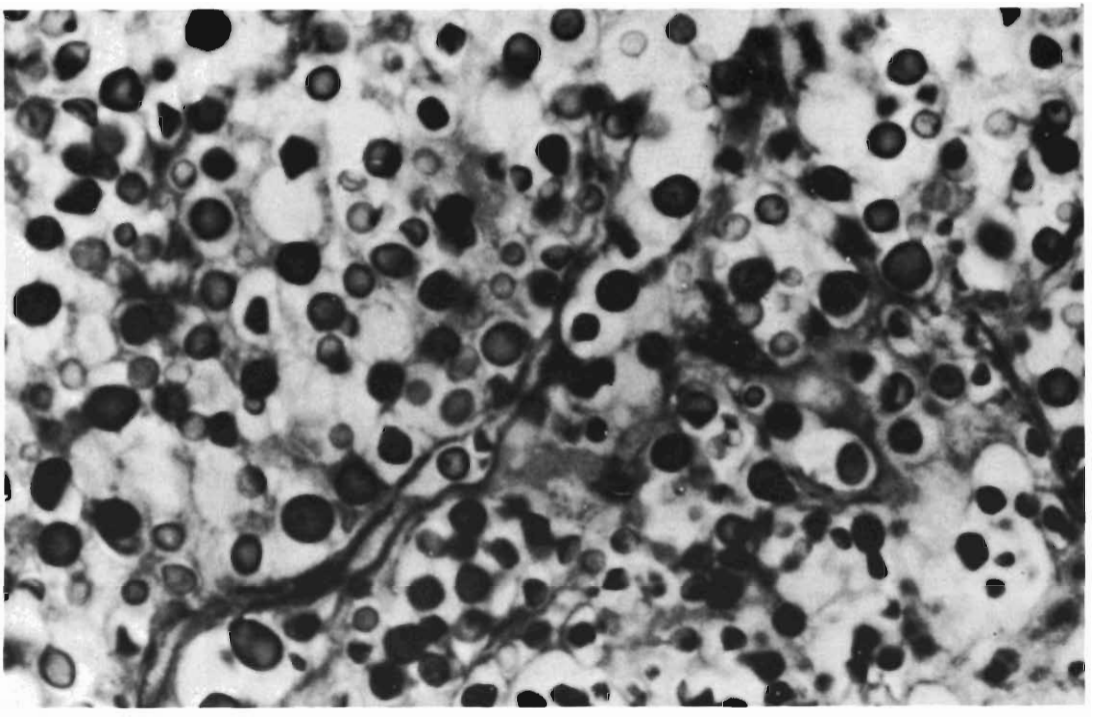

Figure 3. Accumulations of *Cryptococcus neoformans* observed in mucoid type enlargements of the skin and nasal cavity. Gridley's fungus stain. 645 X.

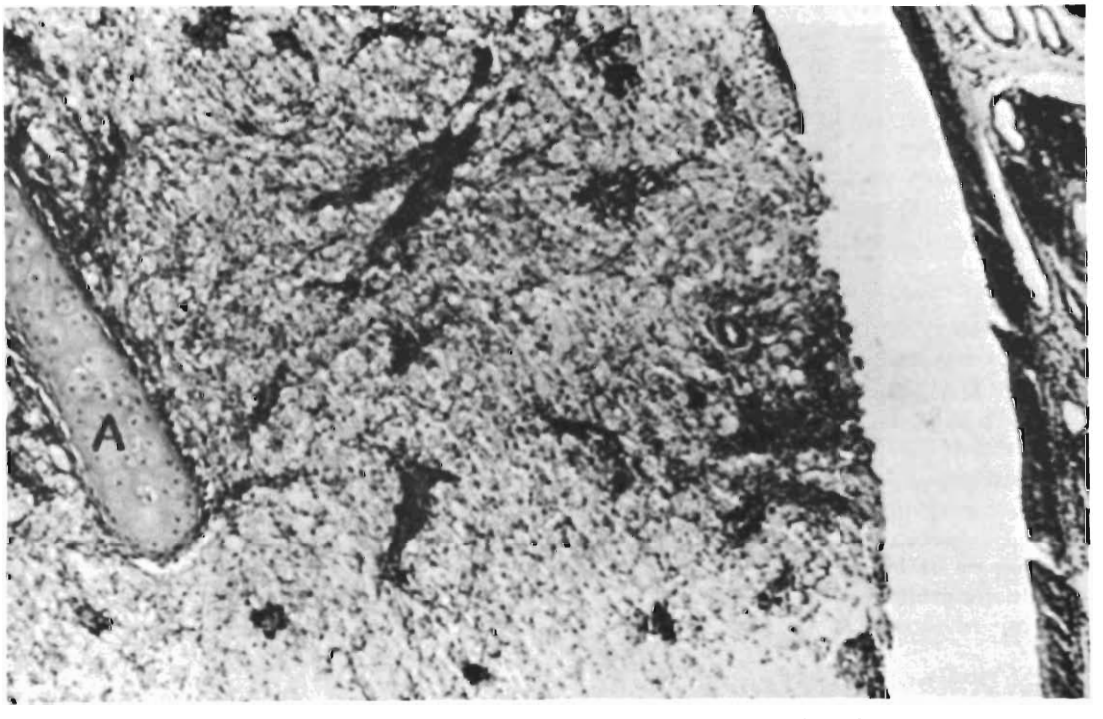

Figure 4. Ventral turbinate (A) lesion of *Cryptococcus neoformans* in a cat. The soft enlargement is composed almost entirely of organisms with minimal host response. H and E. 187 X.

were composed almost entirely of large accumulations of organisms (Fig. 3). Capillary proliferation with mild perivascular lymphocyte and macrophage accumulations were noted between these large collections of *Cryptococcus neoformans*. Fibrosis was not prominent in the cutaneous lesion. In areas less involved, the organisms were located primarily in the dermal glandular structures. Ulceration of the overlying epithelium was a prominent features of the lesion. Observance of individual organisms revealed considerable size variance (4 to 18 microns in diameter) and occasional budding forms. A clear crypt-like space was present around most of the organisms.

Microscopic examination revealed no organisms in the regional lymph nodes.

The lesions on the ventrum of the tail initiated periosteal formation of new bone of the adjacent vertebrae.

The lesions of the nasal cavity involved primarily the ventral turbinate (Fig. 4). Focal submucosal accumulations of organisms similar to the cutaneous lesions were present. Lymphocytes and macrophages were prominent in the surrounding submucosal tissue.

Although the lung appeared normal grossly, there occurred small focal areas of alveolar interstitial thickening with an increased amount of macrophages, neutrophils, and septal cells in the surrounding alveoli. Crptococcic organisms were demonstrated within the septal cells and interstitial spaces with Gridley's fungus stain (5). Lesions were not found in the liver, spleen, kidney, and brain.

This case of cryptococcosis is unusual because the lesions involved primarily the skin. Although changes described are similar, involvement of the lungs and central nervous system is prominent in other reported cases (1, 2, 3,.4, 6, 7, 8, 9). Strict localization of the organisms within the skin with complete recovery when the skin lesion was surgically removed has been reported (7).

A tentative diagnosis of cryptococcosis may be made by observation of budding, oval, thick walled, encapsulated yeast cells in an India ink stained direct slide mount of exudate (7). A more definitive diagnosis may be made following histopathologic examination and culture of the lesion.

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New Ketosis—

(Continued from Page 28)

supervision of a veterinarian or a county extension agent.

Roy S. Emery, MSU dairy scientist, says the new test was used in a recent study where 130 cows were examined for one month after calving. Milk was collected once per week and assayed for ketone content.

"We were able to detect ketone levels as low as two thousandths of one per cent," Emery points out. "That's less than can be detected by any other known test."

"We were also able to control the disease and boost milk production by feeding the cows propolene glycol at the rate of 12 ounces per day over a 10 day period following the detection of ketosis. Cows that received this compound averaged two pounds more milk per day for 60 days than cows that had the disease but received none of the compound."

Emery explains that propolene glycol is used in human and dog foods and is a relatively inexpensive chemical feed additive. Further studies are planned to evaluate the full effectiveness of the chemical and to determine whether farmers can profitably add it to their dairy cattle ration.